

**SYSTEMS AND METHODS FOR THE DYNAMIC RANGE COMPRESSION  
OF MULTI-BEARER SINGLE-CARRIER AND MULTI-CARRIER  
WAVEFORMS**

Abstract of the Disclosure

5           The present invention is related to methods and apparatus that can  
advantageously reduce a peak to average signal level exhibited by single or by  
multicarrier multibearer waveforms. Embodiments of the invention further  
advantageously can manipulate the statistics of the waveform without expanding the  
spectral bandwidth of the allocated channels. Embodiments of the invention can be  
10 applied to either multiple carrier or single carrier systems to constrain an output signal  
within predetermined peak to average bounds. Advantageously, the techniques can be  
used to enhance the utilization of existing multicarrier RF transmitters, including those  
found in third generation cellular base stations. However, the peak to average power  
level managing techniques disclosed herein can apply to any band-limited  
15 communication system and any type of modulation. The techniques can apply to  
multiple signals and can apply to a wide variety of modulation schemes or combinations  
thereof.

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